

D2  
1 3. (Amended) A method for merging partially filled ATM cells as in claim 2 wherein a header of said third  
2 ATM cell further includes information required to reconstruct the partially filled ATM cells contained within  
3 the third ATM cell.

D3  
1 14. (Amended) An ATM network, comprising:  
2 a first node configured to identify partially filled ATM cells within an ATM cell stream  
3 passing through the first node and to merge two or more of the partially filled ATM cells in the cell  
4 stream into a merged cell the merged cell having information indicative of (i) a merging method  
5 used, and (ii) a padding method used for one of the partially filled ATM cells; and  
6 a second node coupled to the first node and configured to identify a merged ATM cells and  
7 to split the merged ATM cell into two or more partially filled ATM cells.

D4  
1 24. (Amended) The method of claim 1 wherein the [header of the] third ATM cell further includes  
2 information indicative of the number of partially filled ATM cells contained within the third ATM  
3 cell.

1 25. (Amended) The ATM network of claim 14 wherein the [header of the] merged cell further  
2 includes information indicative of the number of partially filled ATM cells contained within the third  
3 ATM cell.

1 27. (New) The method of claim 1 wherein the information indicative of the merging method used  
2 and the padding method used is contained within a header of the third ATM cell.

D5  
1 28. (New) The ATM network of claim 14 wherein the information indicative of the merging method  
2 used and the padding method used is contained within a header of the merged cell.

3 29. (New) The method of claim 1 wherein at least one of the first or second partially filled ATM cell  
4 is identified on the basis of at least one of the following indicia: a connection number, a VCI/VPI, a  
5 PTI, or AAL information.

1 30. (New) The ATM network of claim 14 wherein the first node is configured to identify partially  
2 filled ATM cells on the basis of at least one of the following indicia: a connection number, a  
3 VCI/VPI, a PTI, or AAL information.

1 31. (New) The ATM network of claim 14 wherein the first ATM node is configured to check for a  
2 match between VPIs/VCIs of waiting partially filled ATM cells and a VCI/VPI of a fully packed  
3 ATM cell in the cell stream.

1 32. (New) The ATM network of claim 31 wherein the first ATM node is further configured to  
2 reinsert the waiting partially filled ATM cells into the cell stream and before the fully packed cell  
3 when the VPIs/VCIs of the waiting partially filled ATM cells and the VCI/VPI of the fully packed  
4 ATM cell, to avoid cell out-of-order transmission within the ATM cell stream.

DS  
1 33. (New) A method, comprising identifying partially filled ATM cells within an ATM cell stream  
2 according to a lookup table indexed by connection identification information indicating whether or  
3 not a connection includes partially filled ATM cells that can be merged, and merging two or more of  
4 the partially filled ATM cells into a fully packed ATM cell.

1 34. (New) The method of claim 33 wherein the fully packed ATM cell has a header that includes  
2 information indicative of a merging method used.

1 35. (New) The method of claim 34 wherein the fully packed ATM cell further includes information  
2 required to reconstruct the two or more partially filled ATM cells.

1 36. (New) The method of claim 35 wherein the fully packed ATM cell further includes information  
2 indicative of the padding method used in the two or more partially filled ATM cells.

1 37. (New) An ATM node, comprising a cell merging apparatus configured to identify partially filled  
2 ATM cells within a cell stream according to a lookup table indexed by connection identification  
3 information, and to merge two or more partially filled ATM cells into a third ATM cell.